

Fretwell et al. (US 5 556 250) discloses a lift for attachment to a vehicle for moving mobility-impaired passengers between lowered and raised positions for entry and exit. It includes a platform which is affixed to a parallelogram support structure mounted on rails that are movable between an extended and a retracted position, in which the whole lift structure is stowed below a vehicle. The invention is particularly concerned with the slide mechanism and the drive structure for moving the support structure out from under the vehicle to an operative position and again back to its storage position below the vehicle into a mounting enclosure.

The invention is not concerned with the specific problem of mounting the enclosure with the support structure below the vehicle but only with the space accommodation for the enclosure.

Mortenson (US 4 078 676) discloses a self-storing lift gate assembly with a loading platform which can be raised and lowered by a parallelogram-type lifting mechanism and which, for storage, can be folded onto the parallelogram type mechanism to be supported thereon. The invention concerns the folding and operating mechanism. It is not concerned with the mounting of the assembly to the vehicle frame or the vehicle loading bed.

Disque (US 4 579 503) discloses a side loader elevator platform specifically designed to serve a cargo opening in the side wall of a truck body. It includes a carriage assembly that is slidable along rails mounted beneath a truck body's bed transverse to the longitudinal vehicle axis. The carriage assembly includes hydraulic rams operating parallelogram linkages for raising and lowering the elevator platform. A roller chain drive system is provided for moving the carriage assembly and platform on rails between a storage position below the truck body's bed and an elevator use position where the platform is extended outward beyond the truck body's side wall. Locking means are provided for securing the carriage assembly in the extended position or in the storage position.

The present inventor is concerned with the mounting of his loading platform arrangements to trucks, that is to different trucks, at the rear end the truck loading beds. It is pointed out that the trucks of different manufacturers have support frames with

differently spaced support beams so that, generally time consuming adjustment work is necessary for adapting a standard loading platform arrangement to a particular truck.

The inventor is also concerned with providing some protection for the expensive loading platform arrangement during a rear ending accident. Most conventional rear loading platform systems are totally destroyed even by a relatively minor rear ending collision.

The present invention resides in a loading platform system for mounting on vehicles having support frames, particularly trucks, comprising a lift support arrangement consisting of two essentially parallel spaced support beams, a loading platform for lifting and lowering a load, a lift actuating device for lifting and lowering the loading platform and a slide unit which is back and forth movable in the longitudinal direction of the vehicle and to which the various parts of the loading platform system are attached. Transverse members are provided which are adapted to a particular vehicle support frame that is to different support beam spacings and the slide unit is mounted to the transverse members.

With this mounting arrangement only the transverse support members have to be adapted, or selected, so as to fit to a particular vehicle; otherwise the loading platform system requires no adaptation work to be fitted to different vehicles.

Furthermore, the loading platform system or arrangement is mounted onto the transverse members by bolts extending through elongated holes 29 (See Fig. 2) of the platform system frame so that the system can yield during a back-ending accident. Also, in a particular embodiment, the transverse beam 35 by which the lifting arms of the loading platform are interconnected is arranged at the rear end of the lifting arms (not near their pivot point) to form at the same time a crash protection structure (see Fig. 8).

None of the references cited by the Examiner is concerned with a mounting arrangement that would facilitate the mounting of a particular loading platform system to differently designed trucks and none discloses an arrangement utilizing transverse members which are fitted to a particular truck support beam spacing and to which the loading platform system is then attached.

And none discloses that a loading platform system, which is attached to a truck or to transverse members in such a way that the loading platform can yield as a whole when forces effective thereon during a back-ending accident exceed a certain value.

It can therefore hardly be said that a combination of the references cited by the Examiner will lead to the arrangements as defined in amended claim 1 or in claim 6.

Reconsideration of claim 1 as amended is respectfully requested.

Claims 3 and 4 define particular structures and mounting arrangements for the transverse member.

Claims 6 and 7 define the yielding mounting of the systems to the transverse member as pointed out earlier.

Claims 7 to 11 relate to a particular slide arrangement for inward and outward movement of the loading platform system.

Claims 12 - 15 define an arrangement, wherein an engagement structure (holes 450, 460 and pins 322, 332) is provided whereby the loading platform system is mechanically engaged in the extended end position so that moments generated by a load on the platform do not need to be transmitted by way of the slide support and guide mechanism.

Claim 16, 17 define that, at the inward end of the slide mechanism, stops are provided which are non-elastically deformed when subjected to a force above a predetermined threshold (rear ending accident).

Claims 18 and 19 define particular actuators providing for the in and out slide movement of the loading platform system.

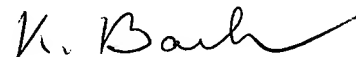
Claims 20 to 24 relate to the transverse beam interconnecting the lifting arms as referred to earlier.

All these specific embodiments and features as defined in the dependent claims are not disclosed in the references cited by the Examiner. They can therefore not possibly be arrived at by a combination of the cited references, that is, they cannot be considered to be obvious from the cited references.

Besides, all these claims are dependent directly or indirectly on claim 1 and therefore include also all the features of claim 1. They should be patentable already also for that reason.

Reconsideration of these claims and allowance of claims 1, 3, 4 and 6 to 24 is solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read 'K. Bach', with a long horizontal flourish extending to the right.

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MARKUP VERSION TO SHOW CHANGES MADE

4. A loading platform system for mounting on vehicles having support frames, particularly trucks, comprising a lift support arrangement consisting of two essentially parallel spaced support structures, an essentially plate-like loading platform for lifting and lowering a load, at least one lift actuating device for lifting and lowering the loading platform as well as a slide unit, which is back and forth movable in the longitudinal direction of the vehicle [and which can be mounted on the vehicle] and to which at least the lift support arrangement, the loading platform and at least the lift actuator device are attached, said slide unit being mountable on the support frame of the vehicle by way of transverse member which bridges the distance between two spaced frame members forming essentially the vehicle support frame and at their longitudinal end are firmly connected to said vehicle support frame.

Cancel claim 2.

3. A loading platform system according to claim [2] 1, wherein said transverse member is provided at its opposite ends with front elements which are connected to the transverse member and by way of which the transverse member is mounted on said support frame.

6. A loading platform system according to claim [2] 1, wherein said transverse member is so mounted on the slide unit that [it] said slide unit is movable essentially in the longitudinal direction with respect to said support frame of the vehicle when a force is effective [thereon] on said slide unit which exceeds a predetermined amount.

8. A loading platform system according to claim 1, wherein said slide unit comprises at least two essentially parallel spaced guide elements which are stationary relative to the vehicle and at least two essentially parallel spaced slide elements which are support members that are movable longitudinally relative to the vehicle [(11)] and back and forth movably supported by said guide elements.

10. A loading platform system according to claim 8, wherein said slide elements are slideably supported in the guide elements [(30, 31)].

13. A loading platform system according to claim 12, wherein said stops include holes, which are oriented in the longitudinal direction of the vehicle and [into which] said slide elements include support pins which extend [and which are disposed on the] into said holes and are engaged therein when said slide elements are in their rear end positions.

18. A loading platform system according to claim 1, wherein a slide actuator is provided for moving said slide elements back and forth.

23. A loading platform system according to claim [1] 20, wherein said transverse beam is essentially rectangular in cross-section.